Burrow.—Length, 18-20 inches; slope, about 1 : 2; depth of egg chamber, 10-11 inches from the surface. The soil in this area is dry just on the surface, but moist below. By the time the eggs hatch the soil would only be very slightly moist at the depth of the nesting chamber.

Eggs.—In our experience the clutch is 6 or 7; laid in November.

Incubation period.—Apparently varies according to weather conditions; in our experience varied from just under 13 weeks to slightly more than 18 weeks.

Casting of skin.—Young ones shed their skin twice in the first year; the first time in December when about nine months old and again the following February or March. The adult lizards shed the skin once a year, in February or March. The new skin is not absorbent for some time.

Rate of growth.—Newly hatched lizards are approximately 6 cm. in length; at 9 months, 9.6 cm.; and at 12 months, 11.5 cm. This seems reasonably fast as most adult lizards are not much over 15 cm. or so.

Drinking.—The statement that Mountain Devils never drink is erroneous. Certainly they do absorb most of the moisture they need through their skins, but when light rain falls in the summer time they will eagerly lick the wet sand or lap up drops of water which collect on fallen leaves on the ground. I have had one which drank more than half a teaspoonful of water held out to it.

NOTES ON THE SPOTTED BOWER-BIRD *(Chlamydera maculata)*

By VINCENT SERVENTY, Subiaco.

During a trip to Exmouth Gulf I had the opportunity of seeing the Spotted Bower-bird for the first time and also examining one bower in the Gulf area. All observations were carried out between July 21 and August 5, 1952.

For a general account of these birds there is a popular summary by Chisholm (*Bird Wonders of Australia,* 1948). Much additional information is given by Iredale (*Birds of Paradise and Bower Birds,* 1950). However, for a modern treatment of the problems of bower building and its purpose Marshall (*Bower-Birds, Their Displays and Breeding Cycles,* 1954) has given an excellent survey of the position with a list of references dealing with the species.

In the present paper it is only intended to put on record the facts obtained on this trip. Serventy and Whittell (*Birds of Western Australia,* 1951, p. 356) have the following comment to make on the distribution of the species in Western Australia: "The distribution of the species in Western Australia appears to be largely determined by that of the wild fig (*Ficus platypoda*) on the fruits of which it feeds, and the southern 'fig line' is also the southern limit of occurrence of the Spotted Bower-bird. The wild fig grows in rough country, among rocks and cliffs, but is not uniformly distributed, and the bower-bird likewise has a patchy distribution. When

writing of his observations in the North-west Cape Range, the late T. Carter considered the birds very rare, but the troops stationed at Exmouth Gulf during World War II found it very abundant in the rugged ridges of the range."

My experience confirmed this comment. It was in the same range I met the bird and examined the bower. As with other observers it was found that by sitting quietly in the one spot birds would approach to within three feet. Only four birds were seen during the whole time spent in the area. Two were met on the flat tops of the range country, one on the alluvial plain to the east of the range, and the fourth at the bower found in one of the canyons of the range. As this was my first field experience with the bird, only one call was heard that could definitely be attributed to the species. This was a cat-like call made by the bird when approaching the bower. It would seem the inquisitive habits of the bird would lead to its easy discovery in the open type of country found in this area, but in the thicker scrub of the canyons the birds could be overlooked. Three visits were made to the valleys and no birds were seen until the discovery of the bower led to the first view of a bird.

All the valleys had a certain number of wild figs growing, and I made it a practice to search under all spreading bushes of this type. On August 2 a bower was discovered in such a situation. The structure was well hidden by low branches. The direction of the tunnel was roughly north and south, though it was not perfectly straight, bending slightly to the north-east, south-west line. The position was just above the creek bed and the ground

Fig. 1. Canyon in Cape Range where the bower was found.

Fig. 2. View of the bower from the north.

Fig. 3. View of the bower from the south.

sloped steeply as shown in the illustration. The tree cover was removed for the purpose of the photograph.

Two old playgrounds with the tunnel walls destroyed but the base still recognisable were under the same tree. These were both oriented east and west and were on horizontal ground. Both these bowers were well towards the centre of the tree, and it might be that in the diffused light there, there was no need for orientation. The most recent bower was on the edge of the tree and in a well-lit position. Marshall cites evidence from Queensland for sun orientation but other workers have found no particular direction favoured.

Across the southern entrance of the recent bower a tough stem of a climbing plant interfered with a free entrance by the bird. This can be seen in the illustration. At the north end the branches reaching to the ground must also have caused inconvenience. At this end there was no collection of 'display' objects. The following is a list of the objects collected in the bower area.

Tunnel section:— This was composed of fine twigs worked into a platform of other twigs and lined on the inside with long grass. The structure was 22 inches long, 19 inches high, and each wall was seven inches thick. As mentioned before there was a slight curve in the tunnel. The grasses tended to arch towards the centre, almost completing a roof for the tunnel. About one third of the way from the south end and in the tunnel was a heap of mulga pods; 136 were counted in the heap and, though most were fresh, a number of dried ones were found underneath.

Platform section:— Nearest the tunnel were a number of fruits: 18 green berries of *Datura Leichhardtii*, 11 clusters of *Jasminum* sp., 1 long pod unidentified, 4 mulga pods of *Acacia* sp. Further away were the following, all somewhat mixed: ninety .303 brass cartridge cases, 2 shotgun cartridge cases (brass parts only), 1 pistol cartridge case, 20 calcite crystals, a number of white bones and a very large number of white, water-worn limestone pebbles. On further examination it was found the bones and the shells extended to the foot of the tunnel but underneath the stick platform. It would appear there was a definite sorting of material. The objects mentioned were left in heaps after counting, and when I returned next day the bird had begun to shift the .303 shells back to their old position, eight having been returned. In one of the old platforms three .303 shells were discovered buried under the sticks of the platform. There were also a number of pebbles in the same place.

On the second visit the adult bird arrived within two or three minutes of our settling ourselves under the tree. No attempt at concealment was made and the bird after inspecting us, went to the bower and began 'tidying' up the tunnel. This consisted of pushing bent grass stems more firmly into position.

The next day I removed the whole of the playground for exhibition at the Wild Life Show. It was found the entire platform could be lifted in one piece with the tunnel firmly adhering. However, the twigs of the outer platforms, on which the stones, bones, and shells had been placed, remained on the ground and had to be gathered separately.